What is claimed is:

1. A method of depositing a thin film using a hafnium compound on a wafer, the thin film being formed of $HfSi_xO_y$ using a reaction chamber comprising a reactor block in which a wafer block is received; a top lid for covering the reactor block to maintain a predetermined pressure; and a shower head installed under the top lid and including a plurality of first spray holes for spraying a first reactive gas on the wafer, a plurality of second spray holes for spraying a second reactive gas on the wafer, and a plurality of third spray holes for spraying a third reactive gas on the wafer, the method comprising:

(S100) mounting the wafer on the wafer block; and

(S200) depositing the $HfSi_xO_y$ film by spraying reactive gases on the wafer,

step (S200) comprising:

(S20) depositing a primary thin film; and

(S21) depositing a secondary thin film,

step (S200) being performed by repeating step (S20) and step (S21) once or more,

step (S20) comprising:

(S20-1) feeding the first reactive gas by spraying TEMAH($Hf((C_2H_5)(CH_3)N)_4$) as the first reactive gas on the wafer through the first spray holes;

(S20-2) purging the first reactive gas by spraying an inert gas through all the spray holes of the shower head;

(S20-3) feeding the third reactive gas by spraying one of O_3 and H_2O as the third reactive gas on the wafer through the third spray holes; and

(S20-4) purging the third reactive gas by spraying the inert gas through all the spray holes of the shower head,

step (S20) being performed by repeating steps (S20-1), (S20-2), (S20-3), and (S20-4) N times,

step (S21) comprising:

(S21-1) feeding the second reactive gas by spraying one of TMDSO($O(Si(CH_3)_2H)_2$) and HMDS($((CH_3)_3)Si)_2$) as the second reactive gas on the wafer through the second spray holes;

(S21-2) purging the second reactive gas by spraying the inert gas through all the spray holes of the shower head;

(S21-3) feeding the third reactive gas by spraying one of O_3 and H_2O on the wafer through the third spray holes; and

(S21-4) purging the third reactive gas by spraying the inert gas is sprayed through all the spray holes of the shower head,

step (S21) being performed by repeating steps (S21-1), (S21-2), (S21-3), and (S21-4) M times,

wherein while a corresponding reactive gas is being sprayed through one of the first spray holes, the second spray holes, and the third spray holes, the inert gas is sprayed through the other two types of spray holes.

2. The method of claim 1, wherein the inert gas is sprayed through a plurality of gas curtain holes, which are further included in the shower head, toward the inner sidewalls of the reactor block so as to minimize deposition of the thin film on the inner sidewalls of the reactor block,

wherein step (S200) is performed while the inert gas is being sprayed through the gas curtain holes.

3. The method of claim 1 or 2, wherein the wafer mounted on the wafer block is heated at a temperature of approximately 80 ℃ to 600 ℃.

4. The method of claim 1 or 2, wherein the first reactive gas, the second reactive gas, and the third reactive gas are transferred to the reaction chamber through gas lines that are heated at a temperature of approximately 200 ℃ or less.

5. The method of claim 1 or 2, wherein in step (S200), the reaction chamber is held at a pressure of approximately 0.1 Torr to 10 Torr.

6. The method of claim 1 or 2, wherein liquid materials of the first reactive gas are contained in a canister that is heated at a temperature of approximately 18 ℃ to 150 ℃.

7. The method of claim 1 or 2, wherein the first spray holes for spraying the first reactive gas are identical to the second spray holes for spraying the second

reactive gas.

8. A method of depositing a thin film using a hafnium compound on a wafer, the thin film being formed of HfO_2 using a reaction chamber comprising a reactor block in which a wafer block is received; a top lid for covering the reactor block to maintain a predetermined pressure; and a shower head installed under the top lid and including a plurality of first spray holes for spraying a first reactive gas on the wafer, a plurality of second spray holes for spraying a second reactive gas on the wafer, and a plurality of gas curtain holes for spraying an inert gas toward the inner sidewalls of the reactor block so as to minimize deposition of the thin film on the inner sidewalls of the reactor block, the method comprising:

(S1) mounting the wafer on the wafer block; and

(S2) depositing the HfO_2 film by spraying reactive gases on the wafer,

step (S2) being performed while the inert gas is being sprayed through the gas curtain holes toward the inner sidewalls of the reactor block so as to minimize deposition of the thin film on the inner sidewalls of the reactor block,

step (S2) comprising:

(S2-1) feeding the first reactive gas by spraying TEMAH ($Hf((C_2H_5)(CH_3)N)_4$)) as the first reactive gas on the wafer through the first spray holes;

(S2-2) purging the first reactive gas by spraying the inert gas through all the spray holes of the shower head;

(S2-3) feeding the second reactive gas by spraying one of O_3 and H_2O as the second reactive gas on the wafer through the second spray holes; and

(S2-4) purging the second reactive gas by spraying the inert gas through all the spray holes of the shower head,

step (S2) being performed by repeating steps (S2-1), (S2-2), (S2-3), and (S2-4) once or more,

wherein while a corresponding reactive gas is being sprayed through one of the first spray holes and the second spray holes, the inert gas is sprayed through the other type of spray holes.

9. The method of claim 8, wherein the wafer mounted on the wafer block is heated at a temperature of approximately 80 ℃ to 600 ℃.

10. The method of claim 8, the first reactive gas and the second reactive gas are transferred to the reaction chamber through gas lines that are heated at a temperature of approximately 200 ℃ or less.

11. The method of claim 8, wherein in step (S2), the reaction chamber is held at a pressure of approximately 0.1 Torr to 10 Torr.

12. The method of claim 8, wherein liquid materials of the first reactive gas are contained in a canister that is heated at a temperature of approximately 18 ℃ to 150 ℃.